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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,832	03/04/2004	Koichi Fujimori	1035-497	3859
23117	7590	07/26/2005	EXAMINER	
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			CHUNG, DAVID Y	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 07/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/791,832	<b>Applicant(s)</b> FUJIMORI ET AL.	
	<b>Examiner</b> David Y. Chung	<b>Art Unit</b> 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 11-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12, 15 and 16 is/are allowed.
- 6) ☒ Claim(s) 11, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/932,027.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>28 April 2005</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**1. Claim 11 rejected under 35 U.S.C. 102(b) as being anticipated by Yamada et al. (U.S. 6,067,141).**

Note in figure 5A, the transparent signal electrodes 3, column spacers 7, and alignment layer 5b. Yamada discloses the following sequence of manufacturing steps: 1) forming transparent signal electrodes 3 made of ITO on glass substrate 1; 2) forming and patterning a photosensitive resin to form column spacers 7; 3) forming vertical alignment layer 5b. See column 15, lines 15-25.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to

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be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**2. Claims 13 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over Tamai et al. (U.S. 5,793,457) in further view of Bahadur (Liquid Crystals 1990).**

As to claim 13, Tamai et al. discloses a method of manufacturing a liquid crystal display wherein the light-shielding film is used to form column spacers. Note in figure 1(a), the substrate 21, the light-shielding layer 23, and photosensitive resin 27'. The apertures in the light-shielding layer 23 are used as a mask during the exposure process shown in figure 1(a). Tamai et al teaches forming the column spacers 27 by removing non-exposed portions of the photo-resist. See column 10, lines 34-67.

Tamai et al. does not disclose providing a color filter. However, Bahadur shows that providing a color filter was conventional for forming a full color display. See pp. 178-181. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to provide a color filter in order form a full color display.

As to claim 14, Tamai discloses that an organic resin with which black dye is mixed is used as the material of the spacers. See column 8, lines 62-64.

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Figure 1(a) shows the photosensitive resin 27' being illuminated from a side where a color filter is not provided.

### ***Response to Arguments***

Applicant's arguments filed April 28, 2005 have been fully considered but they are not persuasive.

In regards to claim 11, Yamada discloses that the vertical alignment layer 5b is formed on the side faces of column structures 7 and portions of the inner surface of substrate 1 where the column structures are not formed. Yamada discloses that the vertical alignment layer 5b may also be formed on the top faces of the column structures. See column 11, lines 20-30. Therefore, Yamada gives explicit fruition to overlying the column structure with the alignment layer and also not overlying the column spacer with the alignment layer. Furthermore, figure 5A shows vertical alignment layer 5a overlying the column structure 7, not vertical alignment layer 5b.

In regards to claim 13, it is believed that only the apertures in the light-shielding layer serve as a mask during formation of the column spacers since the column spacers are formed only in those areas.

### ***Allowable Subject Matter***

Claims 12, 15 and 16 allowed (indicated in previous office action).


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***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Chung whose telephone number is (571) 272-2288. The examiner can normally be reached on Monday-Friday from 8:30 am to 5:00 pm.

  
**ROBERT H. KIM**  
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David Chung  
GAU 2871  
07/22/05